IN THE CLAIMS:

Claims 1-26 (Canceled).

27. (Currently amended) A rotational angle detecting device comprising:

a magnet support having an inner surface and a outer surface;

at least two magnets positioned to produce a magnetic field across a center of rotation, wherein the magnets each include an inner and outer surface and a first and second end portion, wherein the at least two magnets are made of ferrite-based magnetic materials, further wherein each of the magnets outer surface is attached to the magnet support inner surface and each of the magnets first and second ends are spaced from each other in [[the]] a circumferential direction by gaps; wherein there is no magnetic material along an inner peripheral surface of the at least two magnets, and the at least two magnets are not continuous in a circumferential direction;

wherein each of the magnets has an arc-shaped configuration along a circumferential direction;

wherein each of the magnets has a pair of opposite end faces; wherein each of the opposite end faces comprises a first surface and a second surface that are respectively inclined relative to an inner circumferential surface and an outer circumferential surface of each of the magnets by obtuse angles; and

a magnetoresistive sensor disposed within the magnetic field and arranged and constructed to detect a change of

direction of the magnetic field as the magnets and magnetoresistive sensor rotate relative to each other,

wherein the magnetoresistive sensor comprises an IC having a magnetoresistive element;

wherein the magnetoresistive sensor outputs signals representing a relative rotational angle, and

wherein the magnetoresistive sensor comprises a self-contained control unit for receiving the output signals and calculating a linear angle output.

28. (Previously presented) A rotational angle detecting device as in claim 27, wherein the inner surface is radial.

29. (Previously presented) A rotational angle detecting device as in claim 27, wherein each of the at least two magnets has an arc-shaped configuration along the radial direction of the magnet support.

30. (Currently amended) A rotational angle detecting device comprising:

a magnet support having an inner surface and an outer surface;

at least two magnets attached to the inner surface of the magnet support, so that the magnets produce a magnetic field across a center of rotation, wherein the magnets are made of ferrite-based magnetic materials and have opposite end portions in a circumferential direction about the center of rotation, and wherein the magnets are spaced from each other in the circumferential direction by gaps;

wherein each of the magnets has an arc-shaped configuration along a circumferential direction;

wherein each of the magnets has a pair of opposite end faces; wherein each of the opposite end faces comprises a first surface and a second surface that are respectively inclined relative to an inner circumferential surface and an outer circumferential surface of each of the magnets by obtuse angles; and

a magnetoresistive sensor disposed within the magnetic field and arranged and constructed to detect a change of direction of the magnetic field as the magnets and magnetoresistive sensor rotate relative to each other;

wherein the magnetoresistive sensor comprises an IC having a magnetoresistive element;

wherein the magnetoresistive sensor outputs signals representing a relative rotational angle; and

wherein there is no magnetic material between an inner peripheral surface of the at least two opposing magnets and around the magnetoresistive sensor, and between the opposite end portions, and

wherein the magnetoresistive sensor comprises a self-contained control unit for receiving the output signals and calculating a linear angle output.

31. (Currently amended) A rotational angle detecting device comprising:

a magnet support having an inner surface and an outer surface;

a first and second magnet attached to the inner surface of the magnet support to produce a magnetic field across a

center of rotation, wherein the first and second magnet each have a pair of opposing end portions, wherein the first and second magnets are made of ferrite-based magnetic materials, the opposing end portions of the first magnet being separated from the opposing end portions of the second magnet by gaps,

wherein each of the magnets has an arc-shaped configuration along a circumferential direction;

wherein each of the magnets has a pair of opposite end faces; wherein each of the opposite end faces comprises a first surface and a second surface that are respectively inclined relative to an inner circumferential surface and an outer circumferential surface of each of the magnets by obtuse angles; and

a magnetoresistive sensor disposed within the magnetic field and arranged and constructed to detect a change of direction of the magnetic field as the magnets and magnetoresistive sensor rotate relative to each other; and

wherein there is no magnetic material around the sensor and within at least one of the gaps;

wherein the magnetoresistive sensor comprises an IC having a magnetoresistive element;

wherein the sensor outputs signals representing a relative rotational angle, and

wherein the magnetoresistive sensor comprises a self-contained control unit for receiving the output signals and calculating a linear angle output.

32. (New) A rotational angle detecting device comprising:

a magnet support having an inner surface and a outer surface;

at least two magnets positioned to produce a magnetic field across a center of rotation, wherein the magnets each include an inner and outer surface and a first and second end portion, wherein the at least two magnets are made of ferrite-based magnetic materials, further wherein each of the magnets outer surface is attached to the magnet support inner surface and each of the magnets first and second ends are spaced from each other a circumferential direction by gaps; wherein there is no magnetic material along an inner peripheral surface of the at least two magnets, and the at least two magnets are not continuous in a circumferential direction; wherein each of the magnets has an arc-shaped configuration along a circumferential direction; and

a magnetoresistive sensor disposed within the magnetic field and arranged and constructed to detect a change of direction of the magnetic field as the magnets and magnetoresistive sensor rotate relative to each other,

wherein the magnetoresistive sensor comprises an IC having a magnetoresistive element;

wherein the magnetoresistive sensor outputs signals representing a relative rotational angle, and

wherein the magnetoresistive sensor comprises a self-contained control unit for receiving the output signals and calculating a linear angle output.

33. (New) A rotational angle detecting device comprising:

a magnet support having an inner surface and an outer surface;

at least two magnets attached to the inner surface of the magnet support, so that the magnets produce a magnetic field

across a center of rotation, wherein the magnets are made of ferrite-based magnetic materials and have opposite end portions in a circumferential direction about the center of rotation, and wherein the magnets are spaced from each other in the circumferential direction by gaps; wherein each of the magnets has an arc-shaped configuration along a circumferential direction;

a magnetoresistive sensor disposed within the magnetic field and arranged and constructed to detect a change of direction of the magnetic field as the magnets and magnetoresistive sensor rotate relative to each other;

wherein the magnetoresistive sensor comprises an IC having a magnetoresistive element;

wherein the magnetoresistive sensor outputs signals representing a relative rotational angle; and

wherein there is no magnetic material between an inner peripheral surface of the at least two opposing magnets and around the magnetoresistive sensor, and between the opposite end portions, and

wherein the magnetoresistive sensor comprises a self-contained control unit for receiving the output signals and calculating a linear angle output.

34. (New) A rotational angle detecting device comprising:

a magnet support having an inner surface and an outer surface;

a first and second magnet attached to the inner surface of the magnet support to produce a magnetic field across a center of rotation, wherein the first and second magnet each have a pair of opposing end portions, wherein the first and

second magnets are made of ferrite-based magnetic materials, the opposing end portions of the first magnet being separated from the opposing end portions of the second magnet by gaps; wherein each of the magnets has an arc-shaped configuration along a circumferential direction;

a magnetoresistive sensor disposed within the magnetic field and arranged and constructed to detect a change of direction of the magnetic field as the magnets and magnetoresistive sensor rotate relative to each other; and

wherein there is no magnetic material around the sensor and within at least one of the gaps;

wherein the magnetoresistive sensor comprises an IC having a magnetoresistive element;

wherein the sensor outputs signals representing a relative rotational angle, and

wherein the magnetoresistive sensor comprises a self-contained control unit for receiving the output signals and calculating a linear angle output.

35. (New) A rotational angle detecting device as in claim 32, wherein each of the magnets has opposite end faces along a circumferential direction; and wherein each of the opposite end faces comprises a first surface and a second surface that are respectively substantially aligned with a direction of the magnetic field and substantially aligned perpendicular to the direction of the magnetic field.

36. (New) A rotational angle detecting device as in claim 33, wherein each of the magnets has opposite end faces along a circumferential direction; and wherein each of the opposite

end faces comprises a first surface and a second surface that are respectively substantially aligned with a direction of the magnetic field and substantially aligned perpendicular to the direction of the magnetic field.

37. (New) A rotational angle detecting device as in claim 34, wherein each of the magnets has opposite end faces along a circumferential direction; and wherein each of the opposite end faces comprises a first surface and a second surface that are respectively substantially aligned with a direction of the magnetic field and substantially aligned perpendicular to the direction of the magnetic field.